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SECULAR TRENDS AND BUSINESS CYCLES

A CLASSIFICATION OF THEORIES

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I. VALUE THEORIES AND TYPES OF ECONOMY

MALTHUS distinguished what would now be known as a "secular trend" from a "business cycle." But his secular trend was a "population cycle" and his business cycle was a cycle of demand and supply. Ricardo accepted the secular trend but rejected the business cycle. The secular trend led Ricardo into his theory of value and its permanent tendency of profits to a minimum. It was a secular trend downwards of per-capita production. But Malthus placed less importance on his population cycle, since its dire results would occur at a remote period of time, and placed almost his total emphasis on the business cycle, which, instead of a permanent fall of profits, exhibited a rise and fall of profits and wages. "Theoretical writers," he said, "are too apt, in their calculations, to overlook these intervals; but eight or ten years, recurring not unfrequently, are serious spaces in human life. In prosperous times the mercantile classes often realize fortunes, which go far towards securing them against the future; but unfortunately the working classes, though they share in the general prosperity, do not share in it so largely as in the general adversity. They may suffer the greatest distress in a period of low wages, but cannot be adequately compensated by a period of high wages. To them fluctuation must always bring more evil than good." [1]

The Malthusian population cycle, as is well known, turned on oscillations in the equation between population and natural resources, but the Malthusian business cycle turned on oscillations of demand and supply. According to the former cycle, as population increases, the labor cost of subsistence increases, and population is brought nearly to a stand by reason of later marriages and smaller families. The landlords then employ more labor, subsistence is brought to a higher level and the cycle recurs. But, in the case of the business cycle, an increasing demand of governments or of foreign trade or of capitalists and landlords, occasions an overproduction of wealth, which is "like the unnatural strength occasioned by some violent stimulant, and, if not absolutely necessary, should be by all means avoided, on account of the exhaustion that is sure to follow it." [2]

Ricardo, rejecting the theory of an oscillation of demand and supply, deemed the state of cultivation of the land with reference to population as "almost the only permanent cause" of the fall of profits, and attributed the "irregularities" of profits to "temporary" causes, such as changes in wants and tastes, taxes, unproductive expenditures, bad seasons, changes in the value of currency, tariffs and restrictions on imports, and the insecurities of rapacious or corrupt governments.[3] These temporary causes were essentially "accidents" and had nothing to do with the theory of value. But with Malthus they were not accidents — they were cycles explained by his theory of value. Ricardo, said Malthus, had "justly observed" that "the farmer and manufacturer can no more live without profit than the laborer without wages. Their motive for accumulation will diminish with every diminution of profit, and will cease altogether when their profits are so low as not to afford them an adequate compensation for their trouble, and the risk which they must necessarily encounter in employing their capital productively." But Ricardo applied this principle, said Malthus, "to the final and necessary fall of profits occasioned by the state of the land. I would apply it at all times, throughout all periods which intervene between the first stage of cultivation and the last." [4]

Thus Malthus distinguished the two aspects of profits as the "limiting principle" and the

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[1] Malthus, *Principles of Political Economy*, 2d ed., p. 437 (1837). The first edition appeared in 1821.

[2] Malthus, *ibid.*, p. 435.

[3] *Letters of Ricardo to Malthus*, pp. 41, 48, 49, 186, 187. (1815–20.)

[4] *Principles*, 2d ed., p. 433.

"regulating principle." The limiting principle is "the *productiveness*, or *unproductiveness*, of the *last capital employed upon the land*"; the "regulating principle of profits" is "the varying *value* of the produce of the same quantity of labor on the same value of capital determined by the state of the demand and supply."[1] Thus the limiting principle was the population cycle, the regulating principle was the business cycle.

The theory of Ricardo, as is well known, ended in the theory of Karl Marx, that capital was digging its own grave through the tendency of profits to a minimum, or, in other words, that the secular trend would end in revolution. The theory of Malthus was the forerunner of the theories of cycles, where capitalism oscillates between periods of extra profits and no profits, and recovers vitality after a period of depression.

The debate between Malthus and Ricardo turned primarily on two opposing concepts of value and, as a corollary, on two opposing concepts of demand and supply. It is exactly upon these two sets of opposite concepts of value and demand that all theories of secular trends and business cycles diverge and by which all may be classified in the two families of embodied value and commanded value, adapting our terminology to the theories of Ricardo and Malthus.

"I sometimes think," wrote Ricardo to Malthus, "we do not attach the same meaning to the word demand. If corn rises in price you perhaps attribute it to a greater demand. I should attribute it to a greater competition. The demand cannot, I think, be said to increase if the quantity consumed be diminished, although much more money may be required to purchase the smaller than the larger quantity."[2] And he illustrates it substantially as follows: If 5,000 units are bought at $1.00 per unit the total market value is $5,000. But if only 4,500 units are bought because the price has risen to $2.00 per unit, the market value has increased to $9,000. Malthus would say the demand had increased because the buyers paid a higher price; Ricardo would say the demand had diminished because the buyers bought a smaller quantity.

The discrepancy turned on the two concepts of value. Ricardo saw value embodied in commodities by the labor cost of production; Malthus saw value in the relation between production and consumption, the latter being identified with utility. Ricardo's concept of value was the amount of embodied labor in a commodity; Malthus' concept of value was the intensity of demand for goods and labor. Value would be regulated by utility, said Ricardo, "if buyers only regulated the value of commodities"; "then indeed," he continued, "we might expect that all men would be willing to give a price for things in proportion to the estimation in which they held them; but the fact appears to me that the buyers have the least in the world to do in regulating price; it is all done by the competition of sellers." "You say demand and supply regulate value. This, I think, is saying nothing. . . . It is supply which regulates value, and supply is itself controlled by comparative cost of production."[3]

The proponents of the two concepts of value were not careful to distinguish the type of economy to which their theories applied. On this account it is necessary to distinguish four major types of economy to which the several theories of value might apply. These may be distinguished as the truck economy, the precious metals economy, the paper money economy, and the credit economy.

The truck economy consists of barter or truck, where debts, dues, wages, and taxes are paid "in kind." The concept of exchange is that of either commodities for commodities or of commodities for labor, without a medium of exchange or a common denominator of value. The precious metals economy was inaugurated when gold and silver became the common media of exchange and the generally accepted measures of value. The paper money economy was introduced when governments, either directly or through the medium of a bank, issued irredeemable legal tender paper money which supplanted the precious metals both as medium and measure in the exchange transaction. The credit economy marks the period when the vast bulk of the exchange transactions of a nation came to be negotiated through the medium of bank credit, redeemable on demand in precious metal or paper money.

Although these types of exchange have been consecutive stages in the world's experience with exchange media, no one nation has passed necessarily through each and all the stages, nor have all modern nations experienced all types in their development. While the various types of economy may be consecutive or alternating stages within a nation, the nations of the world may at any one time present all types of economies. At the present time we have what amounts to a truck economy in Russia, a precious metals economy in Mexico, a paper money economy in Germany, and a credit economy in the United States.

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[1] *Principles*, 2d ed., pp. 271, 276.

[2] *Letters of Ricardo to Malthus*, p. 42 (1814).

[3] *Ibid.*, p. 176 (1820).

The classification herein proposed of the various economists who have attempted to analyze either the business cycle or the secular trend, is upon a basis of their theory of value as applied to a type of economy. This would logically throw each theorist into one or more of eight classes.

A. Embodied value theorists in (1) a truck economy; (2) a precious metals economy; (3) a paper money economy; (4) a credit economy.

B. Commanded value theorists in (1) a truck economy; (2) a precious metals economy; (3) a paper money economy; (4) a credit economy.

Yet it is a curious fact that, from the standpoint of theories of value, we are required to eliminate the precious metals economy from our classification, and to group the several theorists as truck economists, paper money economists and credit economists. Money is altogether eliminated, in theory, by Malthus, Ricardo, Marx, Sismondi, and Aftalion, which reduces them to truck economists; gold and silver money are eliminated by John Law, Proudhon, and Kellogg, the paper money theorists; and only in the case of the credit theorists do precious metals play a necessary part in the theory of value.

There are historical, theoretical and practical reasons for this elimination of a precious metals economy from a scheme of classification of theories of secular trends and business cycles. The elimination of money from the early theories is to be explained by the reaction against Mercantilism as well as by the absence of a tabular standard, or index number of prices. Ricardo, Malthus, and their followers saw no significance in such a thing as an *average* price level.

It was owing more to their skepticism on this point than to the conclusiveness of their arguments that they disputed with each other whether it should be "embodied labor" or "commanded labor" that should be accepted as the true measure of value. It was not until the device of a tabular standard or an index number of prices had been developed after the middle of the century that the dispute respecting labor as the measure of value quietly disappeared, except as prolonged for another half century in the theory of Karl Marx.

As late as 1848 John Stuart Mill, although defining exchange value as "general power of purchasing," or "command over purchasable commodities in general," yet rejected as impossible and impractical the notion that the general exchange-value of a commodity could be measured by combining and averaging the different variations of its "particular exchange-values."[1] This objection on the ground of impracticability was quite the same as that of Ricardo and Malthus.

Ricardo, in 1816, speaking of a standard which should determine whether or not a paper money had depreciated, objected to measuring the value of money by the "mass of commodities," on the ground of impracticability. He said, "When we consider that commodities are continually changing in value, as compared with each other; and that when such variation takes place, it is impossible to ascertain which commodity has increased, which diminished in value; it must be allowed that such a test would be of no use whatever. Some commodities are rising in value from the effects of taxation, from the scarcity of raw material of which they are made, or from any other cause which increases the difficulty of production. Others, again, are falling, from improvements in machinery, from the better division of labor, and the improved skill of the workmen; from the greater abundance of raw material, and generally from greater facility of production. To determine the value of a currency by the test proposed, it would be necessary to compare it successively with the thousands of commodities which are circulating in the community, allowing to each all the effects which may have been produced upon its value by the above causes. To do this is evidently impossible." Consequently, Ricardo, rejecting what afterwards became the tabular standard of a "mass of commodities," fell back for practical, but not theoretical, purposes, upon a single commodity, gold, whose value was determined by its embodied labor, and was therefore not "exposed to all the fluctuations to which the ignorance or the interests of the issuers might subject it."[2]

Likewise Malthus exclaimed, "When it is said that the exchangeable value of a commodity is determined by its power of purchasing *other goods* it may most reasonably be asked what goods? It would be absolutely impossible to apply all goods as a measure."[3] Hence Malthus fell back on a single commodity, commanded labor, as the measure of value for long periods of time, and gold for short periods of time. Malthus, indeed, did not confuse a measure of value with a cause of value, but he condemned the notion of measuring a general purchasing power over the mass of commodities because it would not throw light on "the most interesting and useful inquiry," that of ascertaining the amount of necessaries and of ordinary conveniences which can be obtained in different countries by the money wages of labor." The poorer classes do not consume the "mass of commodities," but the unit of "commanded labor" does tell us the condition of the laboring classes.[1]

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[1] Walsh, C. M., *The Fundamental Problem in Monetary Science*, pp. 120, 121 (1903).

[2] Ricardo, *Works*, McCulloch, editor, pp. 400, 401.

[3] Malthus, *Works*, McCulloch, editor, p. 119 n.?

Now, as is well known, it is exactly the technique of index numbers that takes care of this main purpose of Malthus. Not "all goods as a measure," but selected commodities at retail prices weighted according to consumption tell us roughly the comparative condition of laboring classes in different countries and at different times. For other purposes other commodities at wholesale prices are selected.

The objection to measuring value by the "mass of commodities" on the ground of impracticability is hardly to be distinguished from the philosophical objection which turned on the purpose to be subserved by a standard of measurement. Measurement may mean either a measurement of causes or a measurement of results. If it means the former, then a "measure of value" is confused with a "cause of value." If it means the latter, then a measure of value is a measure of probabilities rather than specific causes and is colorless as to any or many causes that may have converged to produce the results. The tabular standard or index number of prices tells only what happened, not how nor why it happened. But even to tell what happened the commodities must be so selected and combined as not to mix things of different significance or causation; and this involves both the theory and the technique of index numbers.

It was just because this technique and theory had not been worked out, and because Ricardo, Malthus, Mill, and Marx were intent on measuring the *causes* of value rather than measuring the *results* of valuations that they rejected the notions that general purchasing power could be measured and that it had any significance if it could be measured. But the theory of index numbers, being a theory of multiple causation, brings together in a single curve, which is itself an "envelope" of a series of probability curves, all of those causes which Ricardo enumerates as "accidental" as well as all the immense variety of causes peculiar to each commodity included in the series.

Such price curves evidently have no significance when the purpose is to measure the ultimate causes of value, either Ricardo's "real" or "absolute" value consisting in the quantity of embodied labor, nor Malthus' "intrinsic" value, proceeding from causes originating in the commodity itself. Hence money prices have no significance for any of the theories of value based on production, consumption, pain, pleasure, labor, or utility. They were therefore treated as "nominal" values, and in working out the more fundamental causes of "real" or "intrinsic," embodied or commanded, value, these nominal values are presumed to remain constant, as was Ricardo's practice in working out "permanent causes" and avoiding "accidents" and money values.

But not only are price curves meaningless from this theoretical standpoint of ultimate causation, they are also unimportant from the practical standpoint of settling upon a single standard of value that shall be undisturbed by the ignorance or interests of those who control its issue. This, indeed, has rightly been the dominant purpose in monetary practice since the time of John Locke, because a single uniform medium of exchange for both domestic and foreign trade must take precedence of all other purposes in order to avoid the uncertainties of divergent standards, multiple standards and paper money. For such a purpose an index number of prices as a standard of value is unnecessary and even conflicting, and it was this practical requirement that led Ricardo to reject it as a measure of value and to fix upon gold as the only practicable standard.

But it was exactly from this practical rather than theoretical standpoint that the multiple standard of commodities was proposed. Joseph Lowe, the London merchant, in 1822, was the first to propose a "table of reference," excluding wages and giving a "standard from materials" by which to measure the varying purchasing power of money, to be used, if desired, in "contracts of duration." Somewhat similar tables had been prepared earlier, but they included the incongruous item, wages,[2] which is not a price of a commodity but is an aliquot part of earnings over a period of time. Eleven years after Lowe, in 1833, C. Poulett Scrope, the politician and publicist, in addressing his constituents, originated the name "tabular standard" to be applied to Lowe's device, and set up the stability of the relation of creditor and debtor as the ground on which the objections of Ricardo and Malthus should be disregarded. "It is quite indifferent," he said, whether the change in the level of average prices "has been brought about by circumstances immediately affecting the production of gold or goods. . . . The change in the relative facility of producing gold and goods, in either case, occasions a change in the value of gold — and consequently, in this country, of money — equally unjust and unfair upon the debtors or creditors."[3]

Malthus, previously, as shown above, had stated another practical purpose which in recent times has come to be a dominant purpose of index numbers of prices, namely that of ascertaining the probable prosperity or stagnation of business with its overemployment and underemployment, occasioned by the oscillations of excess profits and no-profits, which in turn are related to changes in the general level of prices.

Hence the two practical purposes, that of stabilizing the relations between creditors and debtors and that of stabilizing or forecasting profits and employment in-so-far as dependent upon general causes and not upon the "intrinsic" or "real" causes peculiar to individuals or individual industries or commodities, have served to bring forward the device of index numbers. These index numbers indicate a multitude of causes to be analyzed and segregated by the science of statistics. If a theory of value is made to conform to them it cannot be either the older theories of embodied value or subjective value. It must be something of a behavioristic or volitional theory of value, explaining value somehow as the billions of valuations made by millions of people induced by a multitude of causes and expectations in the process of billions of transactions. The data thus yielded it is the business of statistics to analyze and correlate into a theory of economic probabilities.

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[1] Malthus, *ibid.*, p. 119 n.

[2] Evelyn's Standard of Weight and Measure, *Philosophical Transactions of the Royal Society*, 88, p. 175 (1798).

[3] Scrope, C. Poulett, *Principles of Political Economy*, p. 406 (1833).

The foregoing will serve to justify our classification of theorists under three types of economy; truck economists, paper money economists, and credit economists. The cross classification gives us only truck economists and paper money economists under the head of embodied value theorists, and truck economists and credit economists under the head of commanded value theorists. It is evident that no such thing as an average price level occurs in a truck economy. It begins only with a precious metal economy. But the truck economists reduced the precious metals to commodities like any other commodity, and, instead of an index number of prices, they spoke of the "general purchasing power" of *any* commodity, including gold and silver. Money was merely a colorless measure like a thermometer, and told nothing of causes. Since the embodied value theorists explained exchange ratios in terms of the amount of inherent, intrinsic, or embodied value in commodities *before* they arrived on the market, it is obvious that, for them, changes in the values of commodities could come only from changes in the technique of production. If the technique of production of any one article improved it resulted in the embodiment of less value in that commodity and therefore that article thereafter had lessened power in exchange. If the production of an article was carried on by a less efficient technique as time passed, as Ricardo thought the case to be in agricultural production, then more and more value would be embodied in the commodity produced under such conditions and it would have greater power in exchange. Any deviation from these general principles governing exchange was thought by the embodied value theorist to be temporary and unimportant.

Such an explanation of the determination of the price level and of price level trends could not account for that periodic rise and fall in the price level which we know as the business cycle. At best the technological trends in an embodied value analysis could produce only sporadic secular trends in the price level.

In the commanded value theory the exchange value of a commodity is the amount of goods or money that it will command in the exchange transaction. It is a series of ratios between that thing that constitutes supply and those other things that constitute demand. The commanded value theory, like the embodied value theory, finds in the truck economy many exchange ratios but no price level. We will call the exchange ratios in the truck economy technological exchange trends.

With the introduction of precious metals as media of exchange the exchange ratios of the truck economy become the price level of the precious metals economy. Both the volume of the precious metals and of other commodities are determined by technological trends. Thus it is that the *precious metals price level trend* of the precious metals economy, like the technological trends of the truck economy, is tied to engineering. As technological trends have no periodic cyclical traits the *precious metals price level trend* cannot possess cyclical characteristics.[1]

The same is true of the paper money economy. So long as the issues of paper representatives are identical with the amount of the precious metals in government or bank vaults the price level remains a precious metals price level. But once the paper ceases to represent precious metals deposits the precious metals price level becomes a paper money price level which is determined by the equation of volume of commodities depending on technological trends and volume of paper money dependent on the will-of-government trend. A periodic cycle in the price level could under such circumstances be produced by a willful expansion and contraction of the volume of paper. There is no case on record where a government had such a deliberate policy. In most instances where nations have gone upon a paper money basis the governments have issued larger and larger volumes of paper so that the *paper money price level trend* has been a secular trend upward to repudiation, as has been the recent experience of Russia and as bids fair to be the experience of Germany. It is obvious that there is no inherent cyclical character in the *paper money price level trend.* France, indeed, repeated it in the case of the assignats and mandats, but nations do not usually repeat such secular trends of the price level to repudiation in periodic succession. Usually one experience precludes thought of its repetition.

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[1] We are not unmindful of the effect upon volume of supply and therefore upon the price level, in all types of economy, of such factors as meteorological changes, crop failures, abundant harvests, industrial catastrophes, artificial restriction of the supply, but there is no proven periodicity in their recurrence. The expression "technological trend" is used in this article to designate changes in the volume of production due to changes in technique. It is a production-per-capita trend.

In the credit economy the commanded value economist finds two variables in the rôle of media of exchange: first, legal tender money, which may include gold, silver, and sometimes a limited amount of paper (as is the case with the United States greenbacks), and second, bank credit. Here we have, on the money side of the equation, a new variable which is not an independent one, like technology, or the will of government, but is dependent upon two other variables, namely, bank reserves, and the needs of business. On the one hand, the volume of bank credit is a volume of promises to pay lawful money on demand, and hence its volume is tied, although not rigidly, to the volume of lawful money; the fluctuating relationship between bank credit and lawful money is roughly indicated by the rate of bank discount, or "value of money" paid by business men for short-time use of bank credit. On the other hand, the needs of business, which are none other than the expected prices *plus* the expected volume of business transactions, determine the volume of credit which the banks are invited to issue in the form of promises to pay money on demand. Hence this dependent variable of the credit economy introduces a *time* element not found in the other types of economy, and by this time element the future controls the present. It is this elastic character of bank credit, depending on expectations of the future, rather than upon such independent variables as technology or the will of government, that produces the *credit price level* which alters during the business cycle. This will appear in the discussion of the commanded value theorists in a credit economy.

II. PRICE MOVEMENTS BASED ON AN EMBODIED VALUE THEORY

1. Truck Economy

Ricardo

The vital point of Ricardo's analysis is that value resides only in physical things and increases as quantity of embodied labor increases. He conceded the effect of demand and supply only in cases of monopoly and in temporary cases of transition. The value of money was determined as everything else, by the labor embodied in specie. Commerce consisted of a barter of physical commodities, in accordance with the relative amounts of labor embodied. Money had its natural price and its exchange value was based upon that. If the cost of mining, refining and coining fell, prices would rise, for the natural price of gold would fall relative to other commodities. But if, by the introduction of new machinery, improved processes, etc., the natural price of commodities was reduced while no similar improvements took place in the realm of the precious metals, then the price of commodities would fall.

Thus the price level for any given moment would be determined by the amount of labor embodied in specie as compared with that in commodities other than gold. The movement of the price level was the resultant of the secular trends of two independent variables. The secular trend of the embodied value of commodities in general would move downward as the labor required diminished with improved processes. In the same way the secular trend of the embodied value of gold would move downward as the labor cost of producing gold diminished. If the downward movement of both were parallel, the secular trend of the price level would be horizontal, indicating no relative change as between the exchange value of goods and gold. As a matter of fact, Ricardo anticipated a much more rapid progress in the production of goods than of gold, i.e., the secular trend of the commodity curve would have a steeper descent than the gold curve, hence he predicted a secular trend of prices downward. Gold would come to embody relatively more and more labor than commodities, hence its exchange value would rise, or prices fall. At any rate the price curve was the resultant of two independent variables the direction of which was dependent upon the technological processes used in production, and could theoretically move in any direction but never in a cycle.

For Ricardo, no possibility of crises of overproduction existed. We have noted that the precious metals economy was in principle identical with a truck economy of physical commodities each of which had its natural value. The only source of demand was possession of a supply. "Goods exchanged against goods" and if there were goods that could not be exchanged it was because the people who wanted those goods did not have a supply of goods for exchange. A temporary maladjustment might be conceivable — a temporary shortage of certain goods — but never general overproduction. And even that situation would be decidedly abnormal, for competition and enlightened self-interest would quickly correct it. For if one line of goods were being produced in such quantities as to be inexchangeable at their natural value, the reverse would have to be true that some goods were exchanging above their natural values, in which case some of the entrepreneurs operating at a loss or in the less profitable industry would cross over to the more profitable enterprises and market values would quickly return to natural values. Ricardo, therefore, admitted the possibility of slight, temporary maladjustment of supplies, yet such a situation was in process of constant adjustment.

Thus Ricardo, by strict adherence to a theory of embodied value got a secular trend, but by admitting the force of supply and demand to produce momentary effects upon exchange values, he admitted minute aberrations about the secular trend. His price movement would be likened to a river the course of which was ever downward, with a given level at any moment and ripples playing up and down about the general level.

Sismondi

Sismondi, the father of underconsumption theories of business cycles, was not a true representative of embodied value, but treated value sometimes as embodied and at other times as commanded. It is for this reason that his "multiple theory of crises" gets him into a serious dilemma. According to Sismondi, crises come repeatedly to disturb industry. He held that they reproduce themselves every few weeks or months.[1] The causes of these violent fluctuations he held to be quite wholly in the realm of production, which he explained by a multiple causation. The immediate cause of a crisis was a glut of the market, but the chief causes operating to bring on the glut were (1) increased production, whether due to inventions, improved processes, governmental stimulation or long hours of labor; (2) increased competition — "undersell and overtrade"—carrying with it the reduced margins of profit for enterpreneurs and lower wages for the workers; and (3) "mieux value" which, similar to surplus value as later developed by Marx, measured the degree of exploitation of labor. These forces caused the glut and the price crash came as the result.

The recovery and upward trend of the price level came because the crisis had bankrupted the employers and production virtually ceased, cutting off the supply, while a moderate amount of necessary consumption continued. This gradually drained off the surplus so that industries could start again and find a market for their products. But with the recovery in prices and renewal of production, the same feverish competition broke out again, carrying production to the limit and profits to a minimum until the market again became glutted and the crash came, carrying employers into bankruptcy and laborers into compulsory unemployment.

According to Sismondi, the order of events in a crisis were then about as follows: (1) recovery and an upward swing of prices; (2) expanded production and decrease of prices; (3) overproduction carrying prices downward where profits were virtually eliminated and wages reduced to a starvation level; and (4) glutted market, crash of prices, bankruptcy, and unemployment. Thus, the causes of crises were diminishing profits, diminishing wages, and a decreasing price level. The crisis, itself, was only a very abrupt fall of the general price level after a more or less extended period of *previously falling prices.*

A hundred years of observation, statistical investigation, and charting shows that the course of prices described by Sismondi does not fit the facts. Crises do not come at the end of a continuously falling price level but after a period of rapidly rising price level.

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[1] "Le Commerce semble un malade dans un état de fièvre ardente; on s'étonne et l'on s'effraie de la rapidité de ses pulsations." *Etudes sur L'Economie Politique,* Sismondi, ii, p. 219 (1837–38).

To return to this multiple theory of crises we find that he cannot consistently present them all. If his theory was one of embodied value it automatically precluded the possibility of a general overproduction crisis.[1] But Sismondi insisted that such could happen and was happening in their very midst. And to prove it he pointed to the industrial revolution, its marvelous power of production, and the long hours of the worker, but coupled with such a miserable wage as to render the laborer unable to repurchase the products of his labor. But this is to talk in terms of demand and supply and to say that the market became glutted because effective demand was lacking. And there is much evidence to show that Sismondi thought of value at times as resulting from the operation of demand and supply.

The dilemma comes when he ties to his other numerous explanations the major cause, "mieux value." As used by him and later appropriated by Marx, there was no alternative but to argue that the laborer embodied a certain amount of value in physical commodities and received in return gold or commodities as wages which contained less embodied labor, the difference representing the exploitation of labor, or "mieux value." Had Sismondi argued on the basis of commanded labor, he would have had the value of labor determined by demand and supply — the result of bargaining between capitalists and laborers, and the value of the finished commodities determined by demand and supply. Even though there might have been a vast margin of profit and miserably low wages the difference could never have been called "mieux value." It would have been nothing more nor less than an exploitation of labor due to labor's bargaining handicap in a world where the value of everything was determined by the free interaction of demand and supply. Any careful study of Sismondi will surely lead to the conclusion that he intended no such interpretation. On the other hand an embodied value theory must logically follow the conclusions of Say and Ricardo that "goods exchange against goods," so there can be no crisis due to too many commodities. The worst possible that could happen would be temporary maladjustment indicating a shortage somewhere. In such case the fluctuations of the price level would be negligible.

Karl Marx

In many respects, Marx's explanation of value and exchange was almost identical with that of Ricardo. Money was considered to be one of the many physical commodities, the value of which was determined by embodied labor. For Marx, value consisted in embodied "social labor power" and varied "directly as the quantity and inversely as the productiveness of the labor incorporated in it."[2] To be consistent with his value theory, it was essential that money, or the measure of value, should be specie. For that which gave value to money, the same as to all other commodities, was its common element, the social labor power embodied.

Marx's explanation of the price level and the movement of the price level is the same in principle as that of Ricardo. There is the secular trend of the two independent variables representing the changing technique in production and the effects on the relative amounts of labor embodied. But in addition to the secular trend, Marx sought to establish the fact of a constantly recurring business cycle. And here we enter upon an interesting quest, for, as we have stated, it is logically impossible for an embodied value theorist to explain anything but a secular trend, and here is the "prince of embodied value theorists" definitely committed to the task of explaining, not only the possibility, but the necessity, of a business cycle.

The explanation was based wholly upon his surplus value analysis. According to Marx, the value of commodities was determined by the amount of social labor power embodied, but the cost of producing commodities was determined by the "value of the means of subsistence necessary for the maintenance of the laborers."[3] And, following the Industrial Revolution, the rise of capitalism and the separation of people into classes — capitalists and laborers, employers and employees — there had arisen a wide divergence between these two values. He showed how laborers were able to embody as much labor power in the commodities they produced in six hours as was embodied in the food, shelter and clothing necessary for their subsistence, but the employer withheld the means of subsistence until labor had worked another six hours. Thus he might say mathematically, labor produced or embodied twelve hours of social labor power and received in wages six hours of social labor power. The difference was "surplus value" created by labor for employers, for which no equivalent was given.

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[1] This question he argued heatedly with J. B. Say and Ricardo. The two latter consistently held that "goods exchange against goods" and therefore supply could never exceed demand. This is a consistent attitude for an embodied value theorist to take.

[2] Marx, *Capital*, I, pp. 44–48 (Kerr's edition).

[3] *Ibid.*, I, pp. 189–191.

But exploitation had its limits and could not go on indefinitely without producing serious maladjustments in the commodity field. All commodities produced (or virtually all in modern capitalistic economy) had to be exchanged and the only effective demand was the supply of another commodity, the value of which was proportionate to the quantity of labor power embodied. But the largest group of buyers or consumers comprised the laboring class which had been robbed of part of their purchasing power, hence they could not buy back the product of their labor. The commodities sought a market but could find none. The market became glutted and goods virtually unsalable except at bankruptcy prices. This was the crisis, bringing in its wake bankrupt entrepreneurs, closed factories, and vast unemployment, poverty and misery. The immediate cause was a glutted market, which may be called "overproduction" but the fundamental cause back of the glut was surplus value or exploited labor, unable to purchase the products of its labor.

If the cause of crises was to be found in underpayment of workers, with consequent lack of market for goods — a glut of the market and bankruptcy of employers — how was recovery to come about? The crisis was due to too much goods, not only consumption goods, but also capital goods; in other words the powers of production had outrun the power of effective demand or consumption, and a bottomed market resulted. It was the function of the crisis to act as an evener. During this period, production virtually ceased, factories and machinery went to the scrap heap while all persons above the poverty line continued consumption in a fairly normal way, and removed the glut. Thus a scarcity of goods arose, the market price of goods returned to their natural values or above, and industries came back with a rush. Prosperity, the first phase of the cycle had come again, only to run the gamut of the previous cycle and end with a crisis. In other words, about the downward secular trend (explained in the same way as by Ricardo), there fluctuated the cyclical curve of prosperity, which gave way to a crowded market, depressed prices, glut, crisis, and bankruptcy — all due to the extortion of surplus value from labor by the capitalistic class.

Thus far Marx explained the secular trend of the price level on the basis of *embodied value* and the cyclical movement of market prices on the basis of *surplus value*. Standing alone each explanation seems logical and complete. The difficulty arose when he attempted to reconcile the two. This Marx tried to do by resort to our old friend "demand and supply." He held that market price would coincide with value if demand and supply were in equilibrium; that demand and supply would be in equilibrium if labor were not exploited, i.e., if employers did not extract their toll of surplus value. Demand and supply would then balance and "if demand and supply balance, then they cease to have any effect," and commodities would sell at their natural values. But when demand and supply do not balance, they affect market price, and since the extortion of surplus value reduces demand, society experiences overproduction and abruptly falling prices. That is to say, Marx himself finally admitted that his pure theory of embodied value could explain nothing but a secular trend, and he was forced to resort to demand and supply to explain the business cycle. He explained value by an embodied value analysis and got a secular trend. He explained market price by demand and supply and got a business cycle.

Before leaving Marx it is necessary to point out a fatal error made by all those who look for the cause of crises in the realm of commodities, or base their theories on overproduction and underconsumption — the glut theories. They may logically explain a cycle but the curve they get is not the curve that the price level follows. Crises do not come after an extended period of depression, during which slow sales, low prices, and a glutted market reduce entrepreneurs to bankruptcy. They do not come after a long trend downward, but rather after a prolonged period of pronounced expansion, speculation, and rising prices. The double criticism, then, of this group is that when consistent, they get no crisis at all, and even when, by being inconsistent, they do get a cycle, it is a very different cycle from the one that actually happens.

2. PAPER MONEY ECONOMY

The paper money theorists have a theory of intrinsic, or embodied value, but they hold that the source of value may be neglected. It may be embodied labor or it may not. The significant thing to recognize is that value is held to be inherent, to reside in physical commodities. We would naturally expect the paper money theorists to hold that total value increases as the physical volume of commodities increases, and that the value of a unit is constant, and therefore not affected by monetary experiments. But on this point, as to the effect of monetary experiments, they are in utter confusion. The representatives of this group are legion, but we shall restrict ourselves to a treatment of a few outstanding and typical representatives which takes us into "Lawism," anarchism, and greenbackism.

John Law

John Law was the son of a London goldsmith, and he saw a remarkable thing happen, namely, the transition of the goldsmith from a warehouseman to a banker. As a warehouseman the goldsmith issued tickets to his customers calling for the gold which belonged to them, but which might be paid in specie, and he issued no more tickets than the amount of gold deposited. But, as a banker, the goldsmith issued notes to his customers promising to pay gold on demand but the gold now belonged, not to the customer, but to the goldsmith, and he issued more promises than the amount of gold on deposit. He changed from a bailee, holding a precious metal belonging to a bailor, which it was unlawful for him to convert to his own uses, into a debtor holding a precious metal belonging to himself, while the general public became his creditor, holding his promises to pay more precious metal than he owned. Stated in terms of the "currency principle" versus the "banking principle," it was the shift from a 100 per cent reserve to a partial reserve.

We may designate this change as one from "commodity tickets" to "commodity-value tickets" or merely "value tickets." In the warehouse or "currency" stage the ticket represented a commodity, gold or silver; in the banking stage the ticket represented the *value* of any or all commodities. That is to say, in the warehouse stage the holder of the ticket owned the *commodity*, gold or silver, regardless of its value; in the banking stage the holder of the ticket (bank note or "deposit") owns the *value* of the ticket because he does not want the commodity that it calls for, but wants its purchasing power. Evidently, everything turns on the definition of value. Does value mean embodied value or commanded value? If it meant embodied value then there ought to be as many tickets outstanding as there were units of embodied value. If it meant commanded value then the quantity of tickets ought to vary inversely to the quantity of embodied value.

John Law thought that value meant embodied value. His primary object was to furnish the world of commerce with an adequate volume of currency. Like his successors he thought that depressions were due to an insufficient quantity of money to enable goods to exchange freely at their real or embodied value. His method was unique in that day. It was the issuance of currency, not as representative of a commodity, gold, but as representative of the embodied value in all commodities, especially land. He saw the banks of England, Scotland, and Holland issuing even four times as much paper money as they had specie to support it. As he revolved this situation in his mind, it occurred to him that money was unique in the world of commerce and trade. Its value was no longer determined by the labor embodied, as Marx afterwards held, nor was its value determined by the fact that it was a warehouse receipt representing some specific commodity in storage. Money was not a commodity ticket, but a commodity-value ticket. The strange thing about the situation was that while money no longer possessed intrinsic worth and only *represented* commodities of intrinsic worth, banks had been allowed to issue more representatives than they had things to represent. The quantity of money, or of value tickets, had been made capable of increase by the resort to a partial reserve. But there was a limit to the quantity of money that could be issued on the basis of the gold reserve, if bankers were to keep their pledges of redeeming the bank notes or value tickets at par on demand. If, then, the quantity of money could not be sufficiently increased by this policy, due to the limited supply of gold or precious metals, why not seek out some other commodity, permanent in nature, with value embodied, and let it be represented in the world of exchange by commodity-value tickets? Why not issue value tickets against commodities of value other than gold?

Law's proposal[1] to bring prosperity through an increase in the supply of money by issuing value tickets representing the intrinsic value embodied in land was rejected both in Scotland and in England, but he succeeded in launching his experiment in France, and the episode of the year 1719 is known as the Mississippi Bubble. The Louisiana Company was formed and notes were issued on the value of the entire landholdings of the Company in the Mississippi valley. Notes by the million were issued, a mania of speculation broke out and the price level went skyrocketing until the bubble burst. The South Sea Bubble of 1720 was the English counterpart in Lawism and the experiment was twice repeated in France three-quarters of a century later, in the issuance of the French assignats and mandats, with the confiscated church lands as a basis.

But why should these experiments have been fatal? The cause is found in the theory of embodied value. Lawism holds that values are intrinsic, and goods will sell at their worth if a sufficient circulating medium exists to move them. But value is affected by demand, and to furnish demanders with a large supply of new legal tenders, particularly at a low rate of interest (which is always a part of the scheme), is to quickly raise the exchange value of the commodity serving as a basis of issue. Hence by the time the first issue has been absorbed the value of the base has so increased in value that it can serve as the basis of another issue, with a consequent rise and another issue, and so on *ad infinitum*. Lawism, carried to its limits, gives a secular trend skyward to catastrophe. But there is no recurring cycle. The end is national bankruptcy. John Law confused a value ticket with a commodity ticket. The title to an acre of land is a commodity ticket calling for a given acre of land, regardless of its value. His paper issues and the assignats were land-value tickets regardless of the fall in the number of acres that the ticket would command.

Proudhon

Proudhon's theory of value was an embodied labor theory, but differed from that of Marx in that, whereas Marx held value to be "social labor power" embodied, Proudhon contended that value was determined by "individual labor time." "Every day's labor is worth another day's labor."[2] Like Law, he felt that prosperity depended upon the maintenance of a numerical relation between the embodied value of goods and the amount of money, for he likened exchange to chemical reactions of two elements, as of oxygen and hydrogen.[3] If they are not in the proper proportion, one element is partly "left over," and is unable to enter into solution until the other element is supplied in greater quantity. If there is too little money some goods cannot enter into exchange but become "non-values." Thus prosperity is dependent upon an abundance of money to keep goods exchanging.

But the vital contribution of Proudhon, and one which separates him distinctly from Law, was his proposal completely to abolish interest. This fitted perfectly with his anarchistic system, for no one was to be allowed property beyond that necessary for personal use, and no one could enjoy an income unless he labored for it. So all forms of "escheat," as rent, interest, and discount, were to be abolished in his anarchistic state. "The suppression of money interest would enable the worker to borrow capital gratuitously and would give him immediate control over all useful capital instead of renting it. All attempts to hold back capital for the sake of receiving interest without labor would be frustrated. The right to property would be reduced to mere possession. Exchange would be reciprocal, and the worker would secure all the products of his labor without having to share it with others; in short, economic justice would be secured" if interest were abolished.[1]

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[1] Law, John, *Money and Trade Considered* (1705).

[2] See Marx, *The Poverty of Philosophy*, pp. 53, 54; Proudhon, *Contradictions Economiques*, i, pp. 107, 108 (2d ed., 1850).

[3] Proudhon, *ibid.*, pp. 83, 84.

To this end, Proudhon proposed his *Banque du Peuple* as a part of the economic program in connection with the revolution of 1848 in France. It was never allowed to function, so we have no such concrete evidence of the effect of such a system upon the movement of the price level as that of the Mississippi Bubble, but a brief examination of the essential feature will give us some idea as to the probable results.

In this bank (1) all loans were to be made without interest, (2) the bank was to issue circulating notes, and (3) loan out these notes on the basis of land, securities, and commercial paper representing transactions, but (4) no definite provision was made for retiring the notes.

The prices of all commodities were to be determined freely between buyer and seller and the certificate of sale could be presented by either party for discount at the bank. While no interest was charged, the provision was made for a "committee of discount" whose duty it was to pass upon all loans and no loan was to be given until "viséd" by the committee.

The query immediately arises, what would be the effect of such a system upon the price level? Proudhon had announced that one of the prime purposes of the bank was to make possible "more goods at lower prices" by making capital or purchasing power readily available for all producers, resulting in increased production and cheaper commodities. But one of his basic ideas was free fixation of prices between buyers and sellers. If so, what was to prohibit a general marking up of prices when money and credit became easy, virtually unlimited in quantity, and no penalty in the form of interest charge?

His answer is to be found in his theory of embodied value and his "chemical" theory of exchange. Goods exchange at their value and all are absorbed in the chemical world of exchange if there are enough monetary elements with which to combine. If there are too many units of the monetary element goods will all continue to exchange at their value, but the monetary element will be left free from solution, and of no value.

Now, there have been two varieties of these "labor-time notes" proposed at different times. One variety has been that of a commodity ticket, the other that of a value ticket. The schemes of Robert Owen, Josiah Warren and others, provided for central warehouses for goods and an issue of notes to the depositors of goods calling for the identical goods deposited. In this scheme, evidently, like that of the early goldsmiths, the ticket is issued when the commodity is deposited, and retired when the goods are taken out. The ticket is not an independent variable, but its volume expands exactly as do the quantities of commodities entering the warehouse, and the volume contracts exactly as the commodities are taken from the warehouse.

But Proudhon's scheme was a pure banking theory of credit, since the issues of tickets were not made on the deposit of goods, but at the request of buyers and sellers upon such values as they might agree upon in the course of business. They were value tickets, not commodity tickets, yet, according to Proudhon, they would not get into circulation in excess of the quantity of embodied value of commodities that they called for. Hence, with the two independent variables — volume of precious metals and volume of government paper — eliminated, the issue is squarely reduced to the question, what would be the effect on the price level if interest on bank credit were reduced to zero?

Of course, if Proudhon's committee of discount refused bank credit whenever they thought the agreement between buyer and seller had been at too high a figure, then the price level might be kept down, but it is quite clear that Proudhon intended no such arbitrary power to any group of men. The prices agreed upon between buyers and sellers were to be ratified automatically, and loans were to be made free of interest at par without question. There was to be no governmental regulation, no precious metals — merely the buyer and seller's "opinion" respecting the amount of embodied value.

In such a case, we can visualize nothing but a secular trend of the price level upward without limit. First, while the commodities consist of embodied value, they are to be exchanged at values which cost no effort, since they are based on "opinion," and these values are to be ratified by an issue of bank credit that likewise neither costs any effort, nor is limited in supply. There is no penalty forced upon the buyer for paying a high price, since the bank willingly loans him, or the seller, the full price agreed upon for the commodities, without charging a rate of interest.

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[1] Gide and Rist, *History of Economic Doctrines*, p. 308.

Furthermore, bank credit, to say nothing of precious metals or paper money, does not act like hydrogen and oxygen, combining in certain fixed proportions and the excess "left over." On the contrary, bank notes and bank deposits pyramid themselves by successive transfers of the same commodity and thus an increase of volume remains outstanding. All the more so does it remain outstanding when nobody has to pay interest to a bank for the privilege of keeping it outstanding. Hence, exactly like precious metals and paper money, every excess of monetary media, including the pyramided bank credit, would enter into exchange and help to reduce the exchange value of the total medium. The progress of such an experiment would be a continual loss of purchasing power, such that prices would take a skyward secular trend, but no cycle.

Kellogg

Edward Kellogg, a merchant of New York, made three improvements upon the scheme of Proudhon, namely, a method of retiring paper when money was not needed, a method of governmental banking in place of private banking, and the requirement of mortgages on specific property which could be held for redemption of the notes. But his theory of value was identical with that of Proudhon — a theory of value embodied in commodities and land.

Kellogg has been called the "father of greenbackism" although his life ended before the active days of the greenback period. His ideas were first published in 1849,[1] popularized by A. Campbell and presented to the National Labor Party in 1867 and became the platform of that party in 1872.

As a Christian gentleman with a keen conscience Kellogg became more and more convinced that labor was exploited, that the spectacle of men of leisure living in conspicuous luxury while hard-working men were in poverty was unquestionably wrong. He felt it his task to discover and propose the remedy. His observation and study ultimately led him to maintain that the seat of the difficulty was to be found in the practice of taking interest by private banks. So, like Proudhon, he proceeded to work out a method of eliminating the possibility of acquiring wealth by interest. He did not propose, as did Proudhon, to eliminate interest entirely but to establish a permanent rate of 1 per cent. This would be sufficient to cover the labor cost of banking and lending, and in addition, he held that money could not circulate and possess exchange value for commodities unless it possessed a "power to accumulate" wealth.[2]

In order to destroy the bankers' monopoly and establish a low interest rate Kellogg proposed a scheme of his own and in order to dissociate his plan from all taint of the word "bank" he called it "the Safety Fund." The prime features of his plan were as follows:

1. Legal tender notes were to be issued up to 50 per cent of the value of land, but the government was to take definite mortgages on the specific tracts in order to be able to foreclose and guarantee redemption. (This precaution was waived during the popular period of greenbackism and populism.) The definite mortgage was Kellogg's improvement over Lawism and the French assignats.
2. The interest rate for loans by the government was to be maintained uniformly by law at 1 per cent while private loans were to be 1.1 per cent.

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[1] Kellogg, Edward, *Labor and Other Capital* (1849). The editions of 1861 and later were called *A New Monetary System*. These were edited by Kellogg's daughter, while a popularized adaptation was published by A. Campbell under the title *The True Greenback* (1868).

[2] Kellogg, *New Monetary System*, pp. 276–278 and 284, 285 (7th ed., 1881).

In this connection it is interesting to note that when the National Labor Party revamped Kellogg's ideas for political propaganda they advocated a legal rate of 3 per cent, neglecting the labor cost principle of the banking business, and stressed wholly the cumulative idea. By consulting the censuses of 1850 and 1860 and comparing the relative amounts of wealth they found that the wealth of the nation had increased by 30 per cent or at the rate of 3 per cent a year. This they held to be the rate of increase in physical commodities produced by labor and they concluded that capitalists must not be allowed a more rapid rate of increase or it would cause a rapid concentration of wealth in the hands of capitalists and bankers. In other words the interest rate must not exceed the rate of increase in national wealth. (Platform of the Labor Reform Party, 1869).

3. The government was to issue two forms of paper, interconvertible on demand, the legal tender note, issued without interest, and safety fund notes with interest. The object was to make it preferable to loan money to the government and gain an interest instead of demanding currency. This provision would make private self-interest operate to keep down the supply of money, and prevent inflation of the currency.

Kellogg was neither a bullionist nor a quantity theorist. He held rigidly to the proposition that money was only a *representative*, having no value in itself, but possessing value only because of its power to accumulate interest, therefore the value of money was determined by one factor alone, the interest rate. Let the government fix the interest rate at 1 per cent and the value of money whether specie or paper, would never change.

The issue, then, resolves itself, as in the case of Proudhon, into the question, what is the effect on the price level of a low rate of interest on bank loans? Kellogg maintained that the "amount of a currency should be limited only by the wants of business."[1] Since, however, it was actually limited by the demands of private bankers having a monopoly, the bankers could charge 8 per cent, 10 per cent or more, and could withdraw the supply suddenly, thus forcing down prices of industries. They gained in two ways, monopolistic rates of interest and purchase of commodities and businesses at forced sales. What business needs is enough money at 1 per cent. By his device of a "safety fund," the holders of currency could get 1 per cent bonds on demand or could get currency by presenting these 1 per cent bonds, and the bonds were not limited in quantity. Hence the rate of interest charged by private bankers could not rise much above 1 per cent. Neither would prices rise above the embodied value of commodities. The theory is one of embodied value and exchange according to chemical laws. If money is too limited some goods have no monetary representatives with which to combine, so cannot be sold and business is depressed. There need be no fear of too much money, for, when all commodities have found representatives with which to combine, the surplus money would be converted into government bonds with no effect upon exchange value. Yet, as shown in the case of Proudhon there *would* be a decided effect — a secular trend skyward.

3. Credit Economy

A theory of embodied value and a credit economy are incompatible. No theorist is known who has attempted to combine the two and on the basis of such a combination work out a logical theory of prices and price movements.

The fundamental assumption of a theory of embodied value is that value resides, and resides only, in physical commodities. Of the three forms of property generally recognized today, namely, corporeal, incorporeal, and intangible, a theory of embodied value recognizes only the first. Therefore any basis for granting credit must be a physical commodity. Character, capacity, good-will, patent rights etc., cannot be considered as having exchange value and hence cannot serve as a basis for the extension of credit. Loans and credits are restricted wholly to those based upon physical property, and the credit instrument becomes, either a commodity ticket (in which case there is really no credit, strictly speaking), or a commodity-value ticket, in which case the element of credit falls in the paper money economy and has already been treated.

In the world of commerce today, one of the great bases of credit is "prospect of advance in price, or exchange value by holding or waiting." But the embodied value theorist considers value in terms of physical supply. By hypothesis this group logically divorce themselves from a credit economy, and if they recognize it they cannot explain it. This is clearly the case with Ricardo, John Stuart Mill and Marx. Ricardo saw in credit only a means of shifting capital from one industry to another, and, if it worked poorly he set it down as one of the "accidents" which intervenes to cause the ripples in market price about the natural price.

John Stuart Mill was an embodied value theorist with reservations and observed quite clearly the nature and functions of credit which he described accurately and in detail, but he made no attempt to fit them into his system of thought.

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[1] Kellogg, *New Monetary System*, p. 254.

Credit was an isolated fact, dissociated, and unapplied.

Karl Marx in his consideration of credit was utterly at sea. Most of the space given to credit was filled with quotations from hearings before Parliamentary Commissions, and Engels gives added proof of Marx's inability to formulate anything coherent on the subject, by making numerous additions and corrections of his own.[1] As some one has said, "Marx picked up credit, looked at it a minute, then dropped it like a hot brick."

III. PRICE MOVEMENT BASED ON A COMMANDED VALUE THEORY

1. Truck Economy

Malthus

The commanded value theory of Malthus divides itself into two parts, one of which is a psychological theory of diminishing intensity of wants, the other is a cost of production theory with a cycle of increasing costs and diminishing profits ending in collapse. Each branch of Malthus' theory is a quantitative theory, in which even the *time* element, that is, the rate of interest, appears as a present cost of production, whereas in the more developed psychological and credit theories of recent times, a non-quantitative factor, namely, the present opinion of future markets influenced by a rising or falling rate of bank discount, plays the leading part in the business cycle as distinguished from the secular trend.

Malthus differed from Ricardo at almost every point. Ricardo assumed that man's wants were unlimited and therefore could be disregarded. It was on this account that supply could never exceed demand. But Malthus anticipated by fifty years the Austro-Jevons psychology and based his theory on the diminishing intensity of wants as a function of an increasing quantity of supply. Effective demand, of course, depended upon the possession of goods that could be given in exchange. Since laborers had no property and no goods except what capitalists and landlords gave them, effective demand proceeded only from capitalists and landlords. Yet even capitalists and landlords were subject to the principle of diminishing intensity of wants in proportion to the increasing supply of goods which they obtained as profits. Malthus treated capitalists and landlords as a propertied class and laborers as an unpropertied class, but Ricardo treated capitalists as individuals. Ricardo contended that capitalists exchanged goods for goods, and labor was nothing more than the embodied force that determined the value of goods. But Malthus contended that capitalists and landlords, as a class, exchanged goods for labor, as a class, and labor was the object that measured the value of goods. Hence, according to Ricardo, there could be no universal or general overproduction of goods — an apparent overproduction of some goods, shown by their low value in exchange, meant only an underproduction of other goods, shown by their high value in exchange. The exchange value of all goods could not rise and fall at the same time, though the embodied values of all goods might rise and fall together. Hence there could be no general overproduction.

But Malthus contended that the great mass of commodities is exchanged directly or indirectly for labor, either productively or unproductively. Hence, compared with labor, *all of the goods* may fall in value at the same time. And this general fall in value proceeds from a "glut," just as any one commodity falls in value from an excess of supply, compared with labour or money.[2]

It followed that Ricardo's remedy for overproduction of some goods was more production of other goods. It followed that Malthus' remedy for overproduction was an increase in unproductive consumption, such as taxes, public employment, highways, improvement of landed estates and more employment of menial servants instead of "productive" laborers.

Here was where Malthus' psychological theory of value came in. An increasing quantity of goods obtained by capitalists and landlords in the form of profits and rents, diminished the intensity of their demand for more profits and rents, hence diminished the value to them of their goods compared with labor. Malthus held that the wants of man were limited and decreased in intensity. Ricardo replied that man's wants were unlimited, and demand therefore depended only on one's possession of goods. The business man's desire for profits was insatiable for Ricardo, satiable for Malthus. "If you think," said Ricardo to Malthus, "that, with an increase of capital, men will become indifferent both to consumption and accumulation, then you are correct in opposing Mr. Mill's idea, that in reference to a nation, supply can never exceed demand." [1]

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[1] Only on credit did Engels reverse his policy of restricting himself closely to Marx's original manuscripts, and here there are pages by Engels.

[2] *Principles of Political Economy*, pp. 274, 275 (1821).

Aftalion

Both Ricardo and Malthus were theorizing for a truck economy. A century later, with the improvements made by the Austro-Jevons analysis, Aftalion [2] reproduces Malthus' diminishing intensity of wants, also for a truck economy. He eliminates money by assuming it to be constant, just as did Ricardo and Malthus, but where Malthus identified commanded labor with money as a measure of value, Aftalion identifies marginal utility with money. And, where Malthus held that the wants of capitalists and landlords diminish with the increase of profits and rents, Aftalion holds that the wants of society diminish with an increase in the supply of consumption goods. The rise and fall of the general price level is due simply to the rise and fall of the *social* marginal utility of goods. Aftalion, like Malthus, introduces other factors such as technology and credit, yet while they intensify, they are subordinate to, the rhythm of diminishing or increasing intensity of wants.

Herein, Aftalion is superior to Malthus, in that he has definitely tied the diminishing or increasing intensity of demand to the increasing or diminishing supply of commodities, and has made the technological factors subordinate to the functional relation between wants and supply of commodities. Aftalion's theory is monistic — Malthus' is dualistic. The second branch of Malthus' theory, that of a cycle of increasing costs and diminishing profits ending in collapse, is with Malthus, an independent cause, not merely a supplementary cause. Here it is not a diminishing intensity of want caused by an increasing quantity of profits (goods) that causes values to fall measured in labor, but it is the diminishing profits themselves that reduce the intensity of desire on the part of capitalists to employ labor. And this is caused by a change in the value of labor itself, owing to rising wages which reduce profits. In this respect Malthus reverts to a cost-of-production theory of cycles, and even the interest on capital becomes only one of the costs of production. In this respect he falls under the first of the two ways of looking upon credit, to be noted as follows.

2. Credit Economy

When we come to the credit economy we find an entirely different set of objects having value. No longer are the objects tangible — they are the intangible promises of business men and banks, which, by the two legal devices of enforcement of contracts and negotiability, have been converted into something so nearly like commodities that they can be bought and sold without regard to the personality of the promisor. Yet they are not commodities — they are promises to pay money, and the money is not in possession of the promisor. They are all of them merely speculations and hopes of the future — that is, "securities" and "bank credits."

Hence a wholly different kind of value begins to play a part in economic theory, namely the present estimate of expected prices at a future point or period of time. There are thus two kinds of value to be taken into account — *exchange* value, that is, prices and volume of supply on both present markets and future markets, and *time* value, that is, rates of interest and discount, which ties future markets to present markets. The time value is either the rate of interest on investments, or the "value of money," that is, the rate of discount on the banking markets. The exchange value is the quantity of other things that can be commanded on the several commodity markets, either the present commodity markets or the future commodity markets. Money is no longer a colorless medium of exchange — it is the "whole thing," either present money or expectations of future money. Hence these credit instruments, which are promises to pay money, may be looked at from two standpoints — either from the quantitative standpoint of demand and supply in the present, or from the non-quantitative standpoint of the optimism and pessimism of business men and bankers in expectation of the future. The former gives us a cost of production analysis, similar to the second branch of Malthus' theory; the latter gives us a mass psychology of hope or fear, which is the substitute, in a credit-economy, for the first branch of Malthus' theory in a truck economy.

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[1] *Ricardo's Letters to Malthus*, pp. 43, 45 (1814).

[2] Aftalion, Alfred, *Les Crises Périodiques de Surproduction*, 2 vols. (1913).

MacLeod

Henry Dunning MacLeod, in 1856, was the first economist to separate the legal instruments, which constitute the credit economy, from the mass of commodities which constitute the truck economy. Yet he reduced them to the level of physical commodities and made their value to be determined by the same principles of demand and supply which determined the general laws of value. This procedure virtually made bank credit into an independent variable — a volume of commodities, "manufactured" by banks, just as the precious metals are manufactured into coin by miners, smelters, and mints. This curious concept of metallic money had been previously suggested by Bastiat. The function of money was to represent a "debt" which society owes to a seller who is not yet compensated for his services to society, since real compensation can be made only by means of services, which society later will render to the seller in his activity as a buyer. At first these debts, or general claims of the individual against society, were represented in gold and silver, but, at a later date, were supplemented by paper representatives of debts in the form of bank notes, bills of exchange, etc., that is, by bank credit.[1] "When persons," he writes, "have sold products or done services to other persons, they are entitled to receive either an equivalent product or service at the same time, or the Right to demand an equivalent at some future time. Now this Right may be in two forms: either that of Metallic Money, which is a General Right to demand an equivalent from the whole mercantile community; or a Right to demand an equivalent from the particular person who has received the product or service. This latter species of Right is what is usually termed a Credit. Hence, in either case, the Creditor is entitled to receive a Right; the only difference is that in one case the Right is *general* and *permanent*, and in the other it is particular and precarious. But, for all that, they are clearly of the same nature. It is therefore seen that Money and Credit are homogeneous quantities: and that Money is only the highest and most general form of Credit." [2]

It follows that, "if a certain Quantity of Stuff of any sort is used to represent any Quantity of Debt at any time, and if the Quantity of Stuff is greatly increased while the Quantity of Debt remain the same, it necessarily produces a great diminution in the Value of the Stuff: and a general rise of prices. . . . In modern times a new kind of Stuff has been employed to a gigantic extent to fill the Channel of Circulation: and that is Credit . . . the Prices of Commodities are estimated according to the aggregate of all these different kinds of Stuff: and not according to any single one. Hence the creation and use of Credit in modern times produces exactly the same effects, and acts upon Prices exactly in the same way as an equal Quantity of Gold." [3]

The principal reason for the existence of banks and the chief source of their profits is their right to create and issue credit in excess of their metallic deposits. "Thus we see," says MacLeod, "that the essential and distinct feature of a bank and a banker is to Create and Issue Credit payable on Demand: and this Credit is intended to be put into circulation and serve all the purposes of money. A bank, therefore, is not an office for borrowing and lending Money: but it is a Manufactory of Credit." [4]

Now the quantity of credit may be overproduced, like that of any other commodity, and it is this overproduction of credit — "unextinguishable credit" — which causes commercial crises.[5] Yet, as long as the banks can redeem their promises in legal tender their volume is not considered by MacLeod to be excessive. When the banks find, too late, that they have overproduced, as shown by the fact that their metallic funds are low, they demand payment of their customers and close down the manufactory of credit. The crash occurs at once, the price level comes down to the metallic basis, or to the point where the banks feel safe in discounting bills of exchange once more, and the process begins again.

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[1] MacLeod, H. D., *Theory and Practice of Banking*, i, p. 35, (5th ed., 1892). The first edition appeared in 1856.

[2] MacLeod, *ibid.*, p. 43.

[3] MacLeod, *ibid.*, p. 54.

[4] MacLeod, *ibid.*, p. 326.

[5] MacLeod, *ibid.*, p. 285–287.

Thus MacLeod works out a business cycle in the form of the sudden collapse of an oversupply of fictitious credit, just as a manufacturer would collapse if he produced more commodities than the market would take at profitable prices. Then the manufacturer starts up again and the collapse is repeated. The rise in the rate of bank discount, which is the peculiar fact of banking as distinguished from manufacturing, plays no essential part in his theory. The theory turns on the "manufacture" of fictitious credit, especially that of accommodation paper. When the hollowness of the banker's assets is revealed the rate of discount suddenly goes up, but that is subordinate to the other causes. The causes of the cycle are found in the two independent variables, volume of money manufactured and volume of goods manufactured.

Juglar and Wicksell

Clement Juglar, unlike MacLeod, found the business cycle, not in the "manufacture" of credit, fictitious or otherwise, but in the actual commodity transactions of business men. The credits accorded to one another by business men are the primary cause in the increase of fiduciary circulation. As these commercial transactions increase in number and volume they create the basic commercial paper upon which the credit of banks is issued. The bank substitutes its promises to the public for the business men's promises to each other. The emission of paper is always secondary and results from the conclusion of a transaction, rather than gives birth to the transaction.[1] Hence, with Juglar, the rate of bank discount plays a more significant part than does the manufacture of volume of credit issues. While banks are increasing the volume of credit, prices are rising, and then the rise in the rate of discount gives the signal of an approaching crisis.

Thus Juglar works out his business cycle, not on the analogy of a factory, but out of the peculiar fact of banking, namely, the relation between the rate of discount and the transactions of business men. For the first time in the theory of cycles, the volume of credit becomes a dependent variable, depending on the one hand, on the transactions and expectations of business men and, on the other hand, on the state of the bank reserves, with its connecting link, the rate of discount, or "value of money." Out of this relationship of time value to exchange value Juglar develops his recurring cycle of prosperity, crisis, and depression. It is the introduction of the definite use of the discount rate to contract credit expansion and its inherent effect upon the movement of the price level that gives us the cleancut contribution of Juglar.

It remained, however, for Knut Wicksell, in 1897, by concentrating attention on the *price level* rather than the volume of credit, to separate out the rate of discount as a controlling factor in the cycle of prices, which Juglar did not do, and thus to separate out a theory of the credit cycle from a theory of the secular trend of prices.[2] With Wicksell it was the *lag* in the rate of interest that permitted prices to rise and this lag required afterwards a sudden rise in the rate, which forced the crisis. Thus, while with MacLeod the lag in the rate was a symptom of the crisis, and with Juglar a warning of the crisis, yet with Wicksell the lag was the cause of the business cycle.

Wicksell's theory, however, was defective on this score, in that it still retained the idea that the effect of the rate of interest, or discount, was to be found only in the costs of production, a low rate making low costs possible, a high rate increasing the costs. But evidently a difference of one or two per cent in the rate of interest can have but little effect on the total costs of production. The great effect of a change in the bank rate is in its effect on the psychology of business men, as Juglar pointed out. A change in the rate upwards is a warning, not a cost. It reduces the value of the future, raises the value of the present, and starts business on a selling campaign. The reverse is true when the rate of discount is low.

To what extent this factor is really influential is a matter for the study of statistics. At any rate it gives a definite place both in the theory of value and in the classification of theories of trends and cycles, to a non-quantitative factor, the hopes and fears of the future. And this, in fact, changes the theory of cycles and trends from merely that of the quantitative physical interactions of commodities worked out deductively, to a theory of probabilities to be worked out statistically. And it changes the theory of value from one having its causes either in Ricardo's embodied labor of the past or Malthus' intensity of wants in the present, into a theory having its causes in the pecuniary expectations of the future.

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[1] Juglar, Clement, *Des Crises Commerciales*, p. 71 (2d ed., 1889). Juglar's first edition was published in 1860, but his original contribution appeared in 1856 in *Journal des Economistes*.

[2] Wicksell, Knut, "*Der Bankzins als Regulator der Warenpreise*," 68 *Yahrb. für Nat. Okon.*, p. 228 (1897). Wicksell's theory has been approved by Fisher and criticized by Mitchell. Fisher, Irving, *The Purchasing Power of Money*, p. 59 n.; Mitchell, Wesley C., *Business Cycles*, pp. 587, 588.

IV. SUMMARY

The foregoing classification of theories suggests the marked changes that have occurred during the past century in economic thought, and the corresponding changes in both the theories of value and the methods of investigation. The early economists were concerned with permanent economic tendencies, regardless of perturbations, "frictions," and "accidents," and their method was therefore deductive and quantitative. They started with certain simple or fundamental causes, especially the pressure of population and the progress of invention, and worked these out to their ultimate tendencies in the increasing costs of production in agriculture counteracted by the decreasing costs of production in manufacture.

Later economists are concerned with the "frictions" and "accidents" themselves, as well as the permanent tendencies, and their method is therefore the statistical method of sequences and probabilities, and their theories are theories of multiple causation instead of ruling or controlling causes.

Thus the earlier theories were concerned with the effects on prices of costs of production, the technological factors which accompany man's conquest of nature, and the pressure of population on resources. They assumed that these technological factors were the causes and the prices of products were the results. But later economists concern themselves directly with the effects, namely the prices of products, and they seek by statistical analysis, index numbers, correlations, etc., to separate the different causes and give due weight to each.

This change in theory and method has accompanied a change in emphasis on the important social problems with which economic theory has to deal. Ricardo's problem was the conflict of capitalist and landlord; Marx's was the conflict of capitalists, including landlords, and laborers; Proudhon's and Kellogg's was the conflict of bankers and merchants with small manufacturers and farmers. The problem of Scrope and his successors of the bimetallic controversy was mainly that of creditor and debtor. Throughout has been the problem, first distinguished by Malthus, of the cycles of prosperity and depression, which has emerged as the dominant one in the past twenty-five years. Thus the shift in emphasis has been from technological costs of production accompanying the industrial revolution to marketing problems and their effects on creditors and debtors, employers and employees, prosperity and depression.

The latter problems have brought into economic theory two additional factors which were "accidents" or "frictions" for the early economists, namely speculation and time. These, at first, were handled in much the same way as physical commodities and thus were forced into the deductive and quantitative method. MacLeod conceived future time to be embodied in a present commodity — credit — the unit of which is "a debt of £100 at 5 per cent payable in one year," just as the others had conceived past labor to be embodied in present commodities. The Austro-Jevons psychology, as developed by Böhm-Bawerk, Marshall, and Pantaleoni, added nothing except a broader generalization, to the theories of Ricardo. They were equally deductive and quantitative.

But speculation and time are expectations of the future, having quantitative effects in the present. Their essential distinction is that the *causes follow rather than precede the effects.* An expectation of bad markets six months or a year from now will cause securities and pig iron to fall in prices now. Hence statistical analysis, the statistical grouping of similar time-factors, statistical concepts of correlations, lags and forecasts, are the only methods by which psychology and time can be introduced into economic theory.

And this involves a decided change in the time factor of theories of value. The embodied value theorists derived exchange-value in the present from what had occurred in the past. The Austro-Jevons theorists derived exchange-value from the pains and pleasures of the present. But a theory of value suited to working out a statistical technique must derive value from the expectations of the future, immediate or remote, else statistics falls into fallacies of finding its causes in those phenomena which precede and its effects in those which follow, where it should often find the effects in the phenomena that precede and the causes in the phenomena that lag. The two theories of value come together and find their focus in the exchange-value of money, or prices, and the time-value of money, or bank rate of discount.

The whole theory of economic causation is thus reversed in two respects. Instead of predetermined physical "effective" causes coming up from the past and embodied in the present, it is a theory of indeterminate teleological "final" causes coming back from the speculative future but also effective in the present. And, instead of causation being something that inherently compels phenomena to occur, causation is merely a statistical statement of lags, forecasts, and probabilities.